Estuarine Performance Measures for LORSS

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LORSS Estuarine Performance Measures

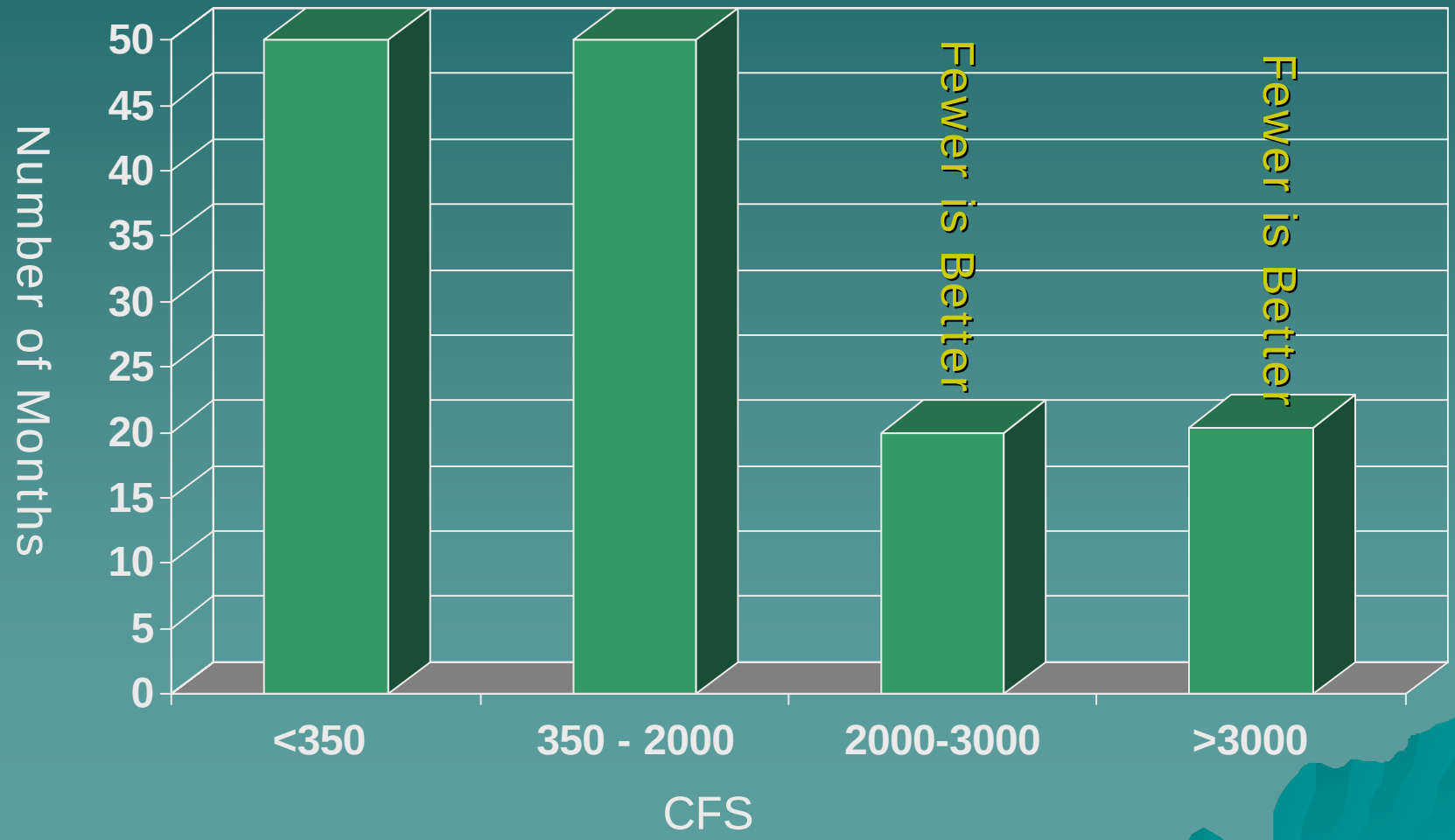
- Mean Monthly Flows
  - Caloosahatchee: S-79
  - St. Lucie: Total Inflow
- Duration of High Flows
  - Caloosahatchee: 7-day moving average >4500 cfs (based on impact to local oysters and seagrasses).
  - St. Lucie: 14-day moving average >3000 cfs (based on impact to local oysters).
- Critical Period: March –June
  - Caloosahatchee: Mean Monthly Flows >2800 cfs
  - St. Lucie: Mean Monthly Flows >2000 cfs

Performance Measure

St. Lucie Estuary

- 350 cfs: Mean monthly flow required to maintain upper limit of salinity envelope.
- 350- 2000 cfs: Mean monthly flow range that provides suitable salinity conditions for the development of important benthic communities (e.g. oysters and submerged aquatic vegetation).
- 2000 - 3000 cfs: Mean monthly flows cause adverse impacts to estuarine biota throughout the estuary .
- >3000 cfs: Impacts downstream marine environments.

Mean Monthly Flows to the St. Lucie

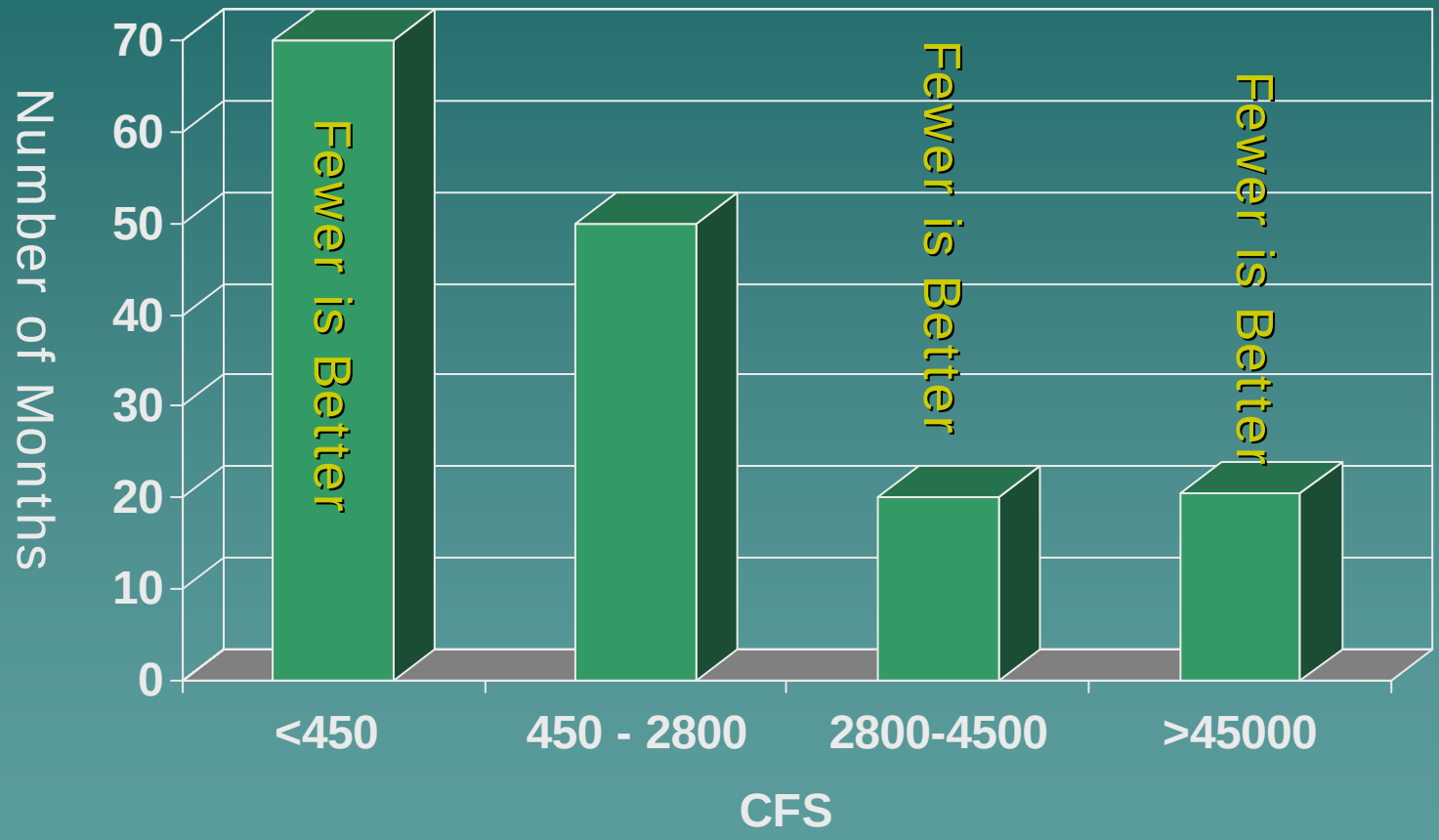


Performance Measure

Caloosahatchee Estuary

- 450 cfs: Mean monthly flow required to maintain low salinity zone in upper estuary.
- 450 - 2800 cfs: Mean monthly flow range that provides suitable salinity conditions for the development of important benthic communities (e.g. oysters and submerged aquatic vegetation).
- 2800- 4500 cfs: Mean monthly flows above which freshwater conditions throughout the estuary cause adverse impacts to estuarine biota.
- >4500 cfs: Impacts downstream marine environments.

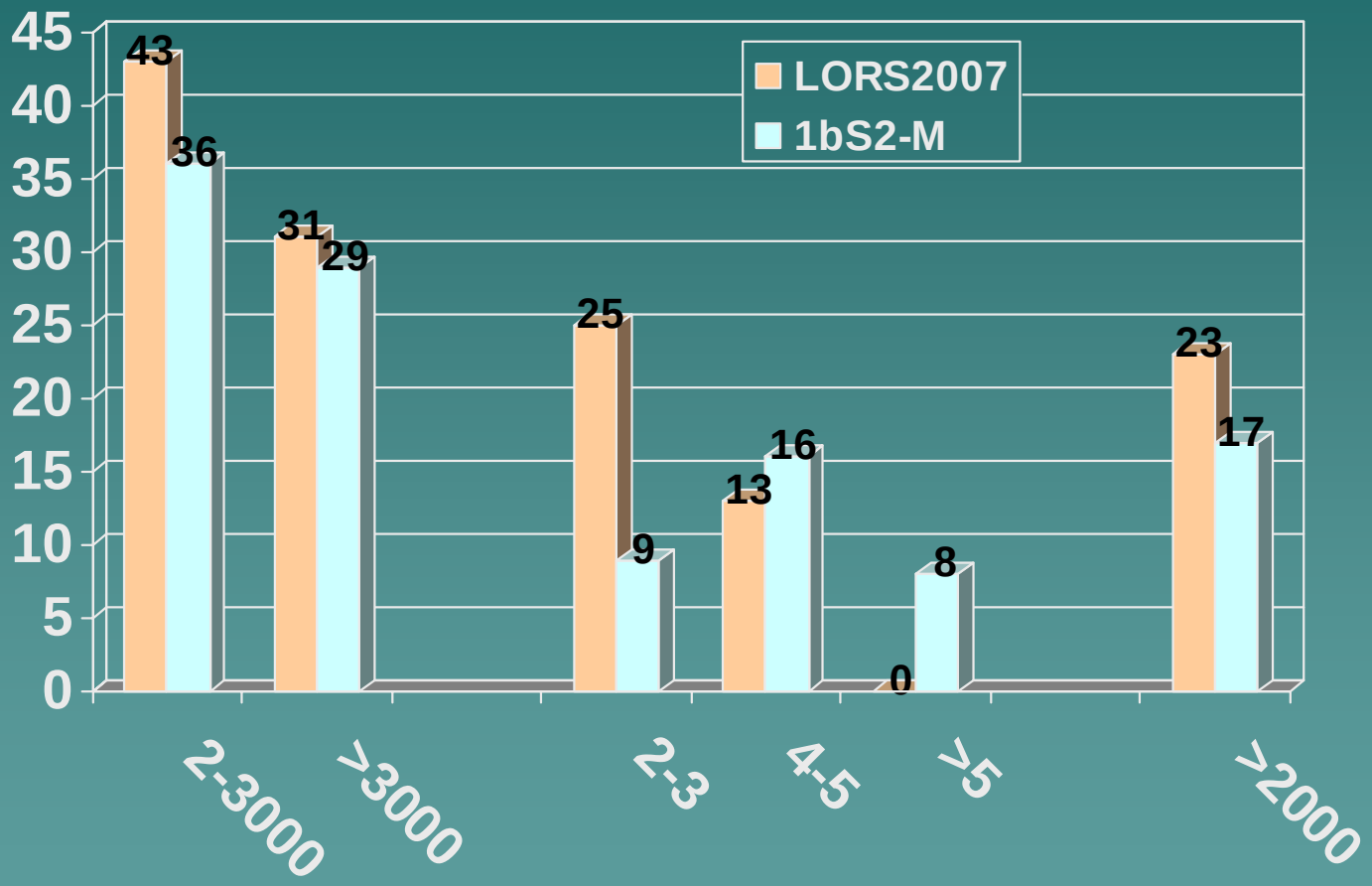
Mean Monthly Flows to the Caloosahatchee



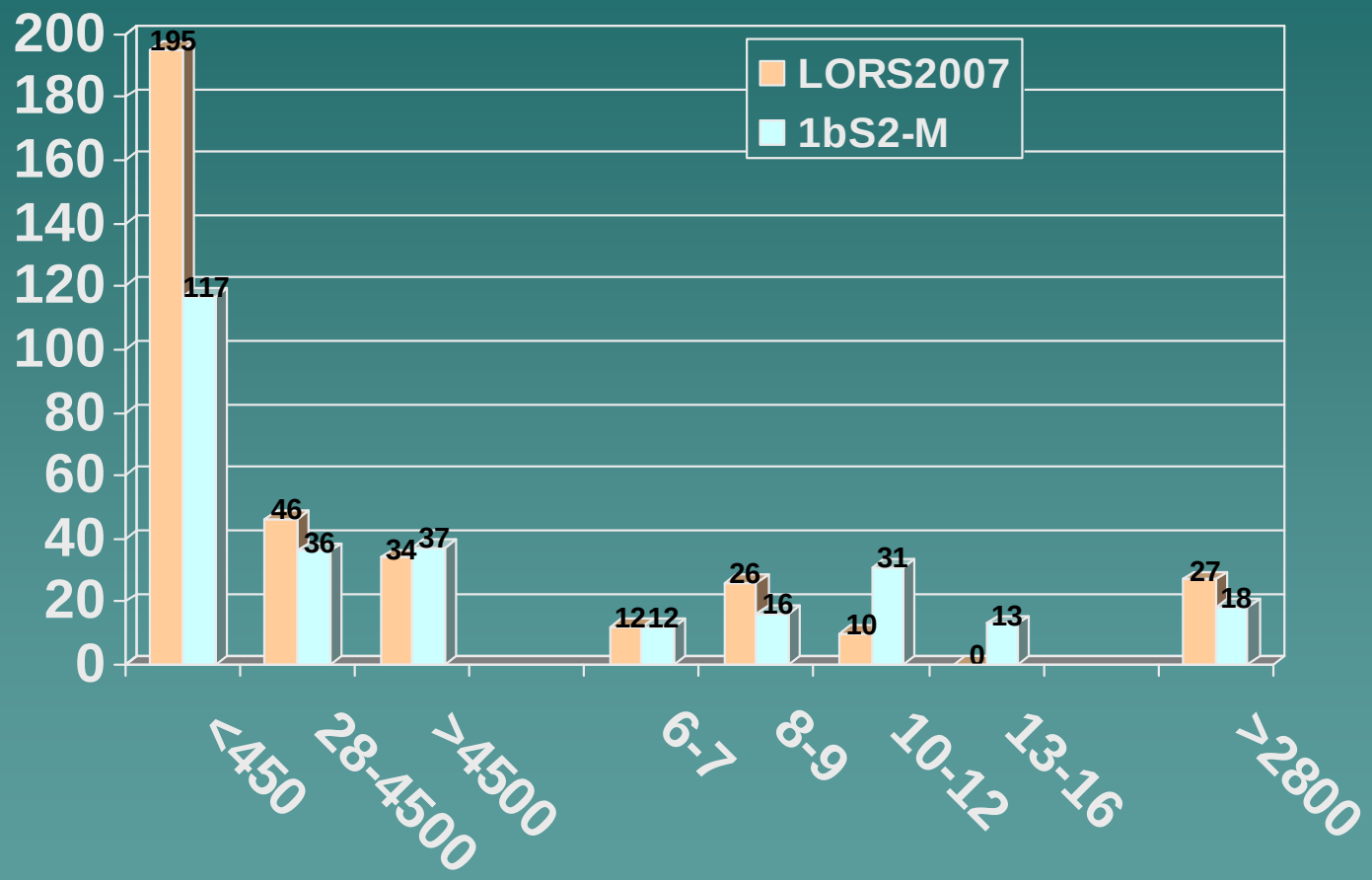
LORSS Performance Measures

- Duration:
  - Fewer high flow events with long durations the better
- Critical Period:
  - SLE: Fewer flows >2000 cfs the better
  - CRE: Fewer flows > 2800 cfs the better

St. Lucie Estuary



Caloosahatchee Estuary



Summary

- St. Lucie Estuary: The TSP
  - Reduces Both Categories of High Mean Monthly Flows
  - Has High Flows of Longer Duration than the Base
  - Has Fewer Damaging Flows During Critical Period

Summary

- Caloosahatchee: The TSP
  - Reduces the number of mean monthly Flows (MMF) < 450 cfs
  - Reduces High Mean Monthly Flows between 2800-4500 cfs but increases those greater than 4500 cfs.
  - Has High Flows of Longer Duration than the Base
  - Has Fewer Damaging Flows During Critical Period